

ABSTRACT OF THE INVENTION

Methods and apparatus are provided for analyzing spacecraft depressurization events. The apparatus comprises a memory configured to store information relating depressurization aperture sizes to feeding volumes and to first derivatives of pressure with respect to time; and information relating to a volume of the at least one compartment. The apparatus further comprises a processor coupled to the memory and configured to receive pressure signals and temperature signals representative of the temperature and pressure in the vessel, detect depressurization from a first derivative of pressure with respect to time calculated in response to the pressure signals, calculate a feeding volume from the compartment volumes, the pressure signals, and the temperature signals and determine a depressurization aperture size using the first derivative of pressure with respect to time responsive to detection of depressurization and the feeding volume.